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ABSTRACT

The concept of individualized instruction has been discussed for more than 60 years. Some individualized instruction techniques that have been implemented over the years with varying degrees of success are ability grouping, nongraded schools, special classes for exceptional children, tracking (academic versus vocational), remedial classes, and team teaching. Individualized instruction programs may be categorized on the basis of the amount of choice students are permitted to exercise in determining instructional objectives and methods and materials. It may be (1) individually diagnosed and prescribed, (2) self-directed, (3) personalized, or (4) presented in the form of independent study. The viability of individualized instruction as a technique for teaching typewriting was tested over the course of two weeks in college-level beginning, intermediate, and advanced typewriting classes. The students set goals for speed achievement and for accuracy development for three- or five-minute straight-copy timed writings. If the students' goals had not been realized, they were encouraged to continue to work for another week or two until the goals were realize. If the goals were accomplished, the students set new goals. When the students were encouraged to set short-term individual goals, the long-range result was increased productivity. This was satisfying to the students and teachers alike. (MN)

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INDIVIDUALIZE FOR STUDENT SUCCESS IN TYPEWRITING/KEYBOARDING

by

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There is a need to individualize instruction in the business education curriculum. Individualized programs are necessary because within the typical classroom, students can be expected to vary in their mental abilities, interests, motivations, learning rates, and learning styles. The average classroom setting is not geared to satisfy the needs of all students because of the wide range of individual differences that generally exist.

This article briefly examines the historical background of individualized instruction and describes some applications of the individualized approach to learning. Some general types of individualized programs are also discussed and elements common to them are included. Furthermore, data are presented and discussed which reflect evidence of student achievement gathered when this author utilized individualized techniques in beginning, intermediate, and advanced typewriting classes in a college setting.

Historical Background and Applications of Individualized Instruction

For a number of years, school administrators and other school personnel have provided procedures and techniques for meeting students' individual learning needs. In fact, the concept of individualizing for student success has been discussed for more than sixty years. Some procedures that have been implemented, with varying degrees of success, over the years include:

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1. Ability grouping
2. The nongraded school
3. Special classes for exceptional children
4. Tracking (academic, vocational)
5. Remedial classes
6. Team teaching

Ability grouping has been the most widely used technique for individualizing. The ease of implementing this procedure as well as the obvious attention to individual differences in learning rates makes ability grouping a popular choice. This type of grouping, however, generally ignores other categories of differences such as learning styles, interests, and motivations.

In order to meet their individual needs and to maximize their opportunities for successful learning and development, individualized classroom instruction requires the redesigning of instructional procedures, methods, and/or materials. Individualized instruction may encompass any of the following techniques:

1. Large-group instruction may be modified to provide small-group or tutorial instruction or independent study.

2. Methods and materials may be individualized to meet students' needs.

3. The required level of achievement or the time needed for mastery may be tailored to the individual.

4. Techniques for individualizing may be provided in some or in all subjects in the curriculum.

Most effective programs for individualizing instruction are based on an instructional model that includes behavioral objectives, self-paced learning materials, and a comprehensive evaluation system for monitoring and measuring the program and achievement. Listed below are some elements generally shared by all individualized programs. However, the emphasis on each of these elements is not uniform across all programs.

1. A series of modules for instruction
2. Instructional objectives are measurable
3. Self-paced instructional procedures
4. Flexible time scheduling
5. A systematic procedure for monitoring the program
6. An instructional environment that provides easy access to learning resources

General Types of Individualized Instructional Programs

Individualized instructional programs may be categorized on the basis of the amount of choice students are permitted to exercise in determining instructional objectives and methods and materials. Thus, four categories ranging from individually diagnosed and prescribed programs to programs designed for independent study are presented. The four programs are classified on the basis of the degree to which instructional objectives and methods and materials tend to be primarily fixed or contingent on student options. In addition, it should be noted that all four classifications provide some attention to individual differences in learning rates, interests, and learning styles. The degree to which these needs are met within each classification varies, however, from one program to another. The four types of programs examined in this article are: (1) Individually diagnosed and prescribed, (2) Self-directed, (3) Personalized, and (4) Independent study (Edling, 1983).

Table 1 lists the four types of programs for individualizing instruction; the extent to which objectives and methods and materials are fixed or contingent on student option; and whether attention devoted to individual learning rates, interests, and learning styles is major or minor.

The individually diagnosed and prescribed program for individualizing instruction is characterized by fixed instructional objectives and fixed

methods and materials for accomplishing those objectives. Attention to learning styles and interests is minor. The program is individualized in the sense that it provides for differences in learning rates among students. A student is placed in an area determined by his readiness and is allowed to work through the prescribed activities at his own rate. Programs of this type are typically used to provide instruction in required subjects where minimum competencies are firmly established. Moreover, learning packets that specify objectives, resource materials, course outlines, and procedures may be used in a variety of content areas as long as learning rate is the primary variable. Self-paced materials or individual progress packages designed especially for elementary typewriting or shorthand courses are particularly well suited for this type of individualized learning.

TABLE 1

TYPES OF INDIVIDUALIZED INSTRUCTIONAL PROGRAMS (Edling, 1983)

(Based on the Degree of Student Freedom of Choice of Objectives and Methods and Materials and the Degree to Which Individual Differences in Learning Rates, Interests, and Learning Styles Are Emphasized)

Type of Program	Instructional Objectives	Methods and Materials	Learning Rates	Interests	Learning Styles
Individually Diagnosed and Prescribed	Fixed	Fixed	Major	Minor	Minor
Self-Directed	Fixed	Options	Major	Minor	Major
Personalized	Options	Fixed	Major	Major	Minor
Independent Study	Options	Options	Major	Major	Major

The self-directed program for individualizing instruction provides for fixed instructional objectives and, consequently, attention to interests is minor. This program is typically employed in teaching required subjects. The self-directed program does, however, permit the student to select from a variety of instructional materials and methods in meeting the fixed objectives. Programs of this type require adequate resource centers. In addition, attempts are made to meet individual differences in learning rates and learning styles. When typewriting students choose timed writing copy from the text, from the workbook, or from teacher-prepared material, they are self-directing their learning.

Within the personalized program of individualized instruction, instructional objectives are determined by the student. This program is generally used at the secondary level for electives and for some courses in science and social studies. Methods and materials are fixed and prescribed for the students after they determine the objectives tney want to achieve. Major emphasis is given to learning rates and interests; however, learning styles of individuals receive little attention. Although the personalized program does not lend itself effectively to typewriting instruction, it could be used advantageously in such business courses as general business, consumer education, and personal finance.

The fourth type of program for individualizing instruction is independent study. This program maximizes student freedom because both objectives and materials and methods are determined by the learner. In addition, independent study is the only program that provides major attention to learning rates, interests, and learning styles. This program is typically used in elective courses.

Classroom Application

In classroom application, the author found that when selected individual learning activities were utilized in beginning, intermediate, and advanced typewriting, students' words-per-minute timed-writing speed and accuracy improved over a fifteen-week semester. Individualized activities were used at the basic, intermediate, and advanced levels of college typewriting in a program of speedbuilding controlled for accuracy. A speedbuilding program controlled for accuracy encourages students to increase their words-per-minute timed-writing speed but only within acceptable error allowances.

The following section describes the learning activities that were used to test the author's premise that individualized instruction is a viable and useful technique in the typewriting classroom. Also, the data obtained are shown in Tables 3, 4, and 5. The data indicate that higher levels of measurable achievement result when individualized teaching activities are employed.

Individualized Activities for Teaching Timed Writings

Every student in the beginning, intermediate, and advanced typewriting classes was instructed to set a personal, individual goal of accomplishment that they would like to achieve at the end of each two-week period during the semester. The students set goals for speed achievement and for accuracy development for three-minute or for five-minute straight-copy timed writings. Students were encouraged to write down their goals at the beginning of each two-week period and to check the attainment of those objectives at the end of the time period when the best timed writings were recorded. If the students' goals had not been realized, they were encouraged to continue to work for another week or two on those same goals or until the goals had been realized. Students practiced on half-minute and one-minute drills to improve their

proficiency. If the individual's goals were accomplished during the two-week interval, a new goal was set by the student. In most instances, the performance objectives that the students set varied by only a few words; for example, two or three words per minute for a five-minute timed writing and one or two words per minute for a three-minute speed goal. Students set error reduction goals to meet the controlled-for-accuracy standards.

Table 2 illustrates the number of errors allowed at each level of college typewriting. Error allowances were permitted to vary only within established standards. For example, students in beginning typewriting were permitted five errors (or 1.67 errors per minute) on three-minute timings. Three-minute timed writings were administered only in beginning typewriting and only during the first seven weeks of class.

TABLE 2

ACCEPTABLE ERROR ALLOWANCES IN A SPEEDBUILDING-CONTROLLED-FOR-ACCURACY APPROACH FOR TYPEWRITING STUDENTS AT THE COLLEGE LEVEL

Course Level	Number of Errors Allowed	Allowed Errors Per Minute
Beginning Typewriting		
Three-minute timed writings*	5	1.67
Five-minute timed writings**	5	1.00
Intermediate Typewriting		
Five-minute timed writings	4	.80
Advanced Typewriting		
Five-minute timed writings	3	.60

*Administered during the first seven weeks of the semester
**Administered from mid-term until the final exam

Students were tested on five-minute timed writings during the second half of the basic course. They were allowed to make five errors (or an

average of one error per minute) on a five-minute timing. All techniques and procedures applied in the basic typewriting course are appropriate for use in keyboarding courses.

Throughout the intermediate and advanced courses, students were administered only five-minute timed writings for grading purposes. Intermediate students were allowed to make four errors (or .8 errors per minute), and advanced students were permitted only three errors (or .6 errors per minute) on five-minute timed writings submitted for consideration by the instructor.

Results of the individualized goal-setting approach are shown in Tables 3, 4, and 5. The results indicate that when students are encouraged to set short-term individual goals, the long-range results in increased productivity tend to be satisfying both to the student and to the teacher.

TABLE 3

AVERAGE GWAM AND ACCURACY IMPROVEMENT IN BEGINNING TYPEWRITING CLASSES WITH INDIVIDUALIZED OBJECTIVES

3-Minute Timed Writings		5-Minute Timed Writings
Fourth Week	Seventh Week	Fifteenth Week
Mean gwam: 31.45	Mean gwam: 36.35	Mean gwam: 39.90
Mean errors: 4.75	Mean errors: 3.95	Mean errors: 3.80
Average no. of errors per minute 1.58		Average no. of errors per minute .76

Average Percent of Increase in GWAM from Fourth to Fifteenth Week: 26.87%

Average Percent of Increase in Accuracy from Fourth to Fifteenth Week: 20.0%

Average Percent of Errors Per Minute Decrease From Fourth to Fifteenth Week: 51.9%

The data in Table 3 indicate that students in the basic typewriting course increased their gross words per minute by an average of 8.45 words. Furthermore, they were able to accomplish a measurable improvement in speed although the length of the timings increased. Improvement in accuracy was consistent over the time interval studied.

TABLE 4

AVERAGE GWAM AND ACCURACY IMPROVEMENT IN INTERMEDIATE TYPEWRITING CLASSES WITH INDIVIDUALIZED OBJECTIVES

5-Minute Timed Writings	
First Week	Fifteenth Week
Mean gwam: 47.74	Mean gwam: 57.26
Mean errors: 3.65	Mean errors: 2.83
Average no. of errors per minute .73	Average no. of errors per minute .57

Average Percent of Increase in GWAM From First to Fifteenth Week: 19.94%

Average Percent of Increase in Accuracy From First to Fifteenth Week: 22.47%

Average Percent of Errors Per Minute Decrease From First to Fifteenth Week: 21.92%

Table 4 shows that intermediate typewriting students' average gross words per minute increased by 9.52 words. Individualized goal setting helped students improve their timed-writing speed as well as their accuracy. The average number of errors decreased by .82 errors over the fifteen-week period.

Concurrent improvement in timed-writing speed and accuracy was also experienced by the advanced typewriting students in this study. Table 5, shown below, reveals an average increase of 9.6 gross words per minute within the acceptable error allowance. Moreover, accuracy levels tended to be affected

by an individualized approach so that there was a average decrease of .12 errors during the semester.

TABLE 5

AVERAGE GWAM AND ACCURACY IMPROVEMENT IN ADVANCED TYPEWRITING CLASSES WITH INDIVIDUALIZED OBJECTIVES

5-Minute Timed Writings	
First Week	Fifteenth Week
Mean gwam: 55.60	Mean gwam: 64.00
Mean errors: 2.85	Mean errors: 2.24
Average no. of errors per minute .57	Average no. of errors per minute .45

Average Percent of Increase in GWAM From First to Fifteenth Week: 15.11%

Average Percent of Increase in Accuracy From First to Fifteenth Week: 21.40%

Average Percent of Errors Per Minute Decrease From First to Fifteenth Week: 21.05%

The kind of speed/accuracy development demonstrated by these data is particularly important to students who are striving to enhance their employability. Potential employers usually administer timed writings to test typewriting skill as one component of pre-employment testing. Use of the individualized techniques employed in this study can assist students to fulfill employment criteria.

Conclusions

It is generally recognized that nearly all students will be able to increase their typewriting speed, however, the difficulty arises when students attempt to reach speeds within acceptable error allowances. The data

in Tables 3, 4, and 5 indicate that beginning, intermediate, and advanced typewriting students, using individualized techniques, measurably increased words per minute and, at the same time, increased accuracy levels.

There are many options available to the educator who wants to individualize instruction. Any one or a combination of the individualized programs and learning activities described in this paper may be used along with commercially developed, locally developed, or teacher developed programs. The concept of individualized teaching and learning remains viable and is nearly always student motivating, especially when the results are measurable. It is essential to note, moreover, that individualized teaching usually requires the teacher to perform more work rather than less, but the results are definitely worth the effort. What is more important, however, is that teachers make the effort to help every student experience real, measurable success in today's formal school setting.

REFERENCE

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